AN INTRA-ABDOMINAL GOSSYPIBOMA

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SUMMARY
Inadvertent retention of a foreign body in the abdomen often require another surgery to recover the material. This increases morbidity and mortality. Risk factor that could predispose to a gossypiboma occurring have been reported. A 44-year old female in whom an abdominal sponge was left in the pelvis after a total abdominal hysterectomy is reported. Surgeons must be aware of the risk factors that lead to a gossypiboma and take measures to prevent it.

Keywords: Foreign body, Gossypiboma, Abdominal sponge, foreign body granuloma, trans-mural migration

INTRODUCTION
Inadvertent retention of foreign materials in the body after surgical procedures continues to feature in the literature and the law courts.[1] The embarrassment, humiliation, job loss and law suit that could attend this situation leads to shelving of many cases especially in the developing world and the incidence may therefore never be known. It is estimated that a gossypiboma may occur in 1 out of 1,000-1,500 intra-abdominal operations and 1 out of 300-1,000 of all operations.[2]

A case of a woman in whom a sponge was accidentally left in her pelvis which migrated transmurally through the rectal wall and got impacted in the process is here reported.

Case Report
A 44 year old multi-parous woman who had undergone a total abdominal hysterectomy 4 years earlier on account of bleeding uterine fibroids presented to the surgical emergency unit with an impacted foreign material in her anus. (Fig 1) The total abdominal hysterectomy was performed by a septuagenarian obstetrician and gynaecologist working part time in a parastatal hospital. This was the third case the team worked on for that evening and significant adhesions were encountered that required division. Blood loss was significant (450-500ml) and inadvertent small bowel injury that was noticed after the hysterectomy was repaired. Instrument/sponge count was not recorded.

She had diarrhoea and tenesmus for six days which was followed by constipation for four days before presentation. She passed mucus during some of the bowel motions but the stools were mostly semi-formed. There was no associated fever or chills. She did not notice the passage of pus or blood per rectum. On the day of presentation she experienced a strong urge to defaecate. She strained so hard but did not pass stool, instead she pushed out a foreign material that got impacted in her anus and all attempts by her to pull it out failed.

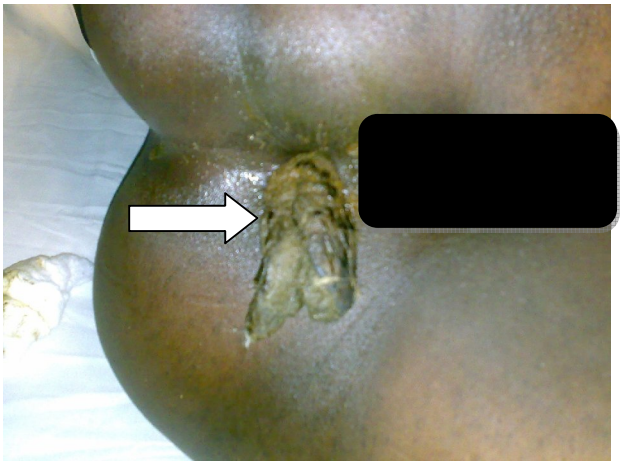

Figure 1 The impacted abdominal sponge (arrowed) as the patient tried to force it out by straining at defaecation.

She suffered recurrent lower abdominal pains for two years prior to presentation. She had no associated dysuria, vaginal discharge or diarrhoea. Examination revealed a well-looking woman who was, however, in pain and was restless. Following sedation and subsequent anaesthesia a digital rectal examination was performed. It was noticed that there was a defect in the lower anterior rectal wall through which an abdominal sponge was extruding but got impacted in the process. With gentle digital dilatation of the opening the sponge (Figure 2) was extracted. She was admitted and discharged on the fourth day when she had passed stools a couple of times without consequence. She had no abdominal pain or tenderness.

Figure 2 The abdominal sponge that was removed showing the area which was stuck in the perforation in the anterior rectal wall (Arrowed)

DISCUSSION

Gossypiboma, which is retention of cotton material (gossypium (cotton) is derived from Latin, and boma (place of concealment) from Kiswahili)[3], usually a gauze or abdominal sponge frequently cause morbidity and may result in death. Patients frequently undergo another surgery to recover the material, but occasionally they have been passed out through the anus without effect.[4] Gossypibomas have revealed themselves as intra-abdominal masses[5,6], in intestinal fistulae, and by causing intestinal obstruction[7,8,9] after migrating trans-murally into the intestinal lumen. They have protruded into the gastric antrum from the first part of the duodenum[10], into the urethra[11] and in this case into the rectum.

Following retention of a cotton material in the abdominal cavity one of two processes will ensure. A pyogenic granuloma develops if the material is contaminated. The abscess formed ultimately ruptures into a hollow viscus and discharges pus followed by bleeding and then extrusion of the foreign body. If the foreign body cannot be extruded it remains in the abscess cavity and creates multiple fistulae. In such a case the patient who was recovering well after surgery becomes chronically unwell and complains of vague abdominal symptoms.

A sterile foreign body granuloma may form if the material is not contaminated. The granuloma has a thick wall and has a protracted course compared with the pyogenic type. The foreign material gradually 'eats' its' way into a hollow viscus. The thick walled cavity gradually collapses over the foreign material as the later migrates into the lumen of the organ. The defect in the bowel wall is sealed off by the wall of the granuloma following complete extrusion of the material, and this prevents discharged of intestinal content into the cavity which otherwise will result in an abscess formation. This explains why these foreign materials have been extruded completely into the bowel and passed out of the body without consequence. In the patient reported here a similar process might have taken place leading to sealing off of the cavity. Unfortunately we were unable to demonstrate this with barium enema studies because the patient after discharge was lost to follow-up.

Risk factors that could determine retention of foreign bodies after surgical procedures have been reported in two in-hospital retrospective case-control studies. The risk is higher when the operation is performed as an emergency, there is an unexpected change in surgical procedure, the patient is obese and the instrument/sponge counts are omitted.[12] Additionally the risk increases in patients who may have had a greater number of major surgical procedures at the same time and also when there have been multiple surgical teams.[2]

Staff fatigue, prolongation of the procedure, the need to control blood loss by tamponade while an injury that occurred was repaired and omission of instrument and/sponge count were the main factors in this case that could have resulted in the sponge retention. Gossypiboma will always reveal itself ultimately, and so surgeons should be acutely aware of the risk factors that result in gossypiboma and make deliberate efforts to prevent it.

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